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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,324	12/12/2003	David L. Graumann	884.070US2	1376
21186 7590 09/24/2007 SCHWEGMAN, LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			EXAMINER WHIPPLE, BRIAN P	
			ART UNIT 2152	PAPER NUMBER
			MAIL DATE 09/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/734,324

Applicant(s)

GRAUMANN ET AL.

Examiner

Brian P. Whipple

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/12/03</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-41 are pending in this application and presented for examination.

Claim Objections

2. Claims 3, 31, and 40 are objected to for the following reasons:
3. As to claim 3, ln. 2-3, the phrase "to client" should read "to a client."
4. As to claim 31, ln. 1-2, and claim 40, ln. 3, the phrase "form the data packets" should read "from the data packets."

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-2, 4-13, 15-20, 22, 24, 26, 28, 30-34, 36-38, and 40-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Graf, U.S. Patent No. 6,085,221.

7. As to claim 1, Graf discloses a system comprising:

an under-run forecasting mechanism to estimate a time at which a supply of data packets will be exhausted to generate an under-run predicted time (Fig. 4; Col. 6, ln. 44-59);

a statistics exhaustion monitoring mechanism to measure fluctuations in arrival of data packets to the supply of data packets (Fig. 4; Col. 6, ln. 44-59); and

a playback queuing mechanism to build latency in the supply of data packets based on the under-run predicted time and the measured fluctuations in arrival of data packets (Col. 2, ln. 42-51; Col. 5, ln. 47-54; Col. 7, ln. 10-25).

8. As to claims 12, 19, 30, and 33, the claims are rejected for the same reasons as claim 1 above.

9. As to claim 2, Graf discloses the system is adapted to send data packets from the playback queuing mechanism to a client on a network to play data from the data packets (Fig. 5).

10. As to claims 13, 28, and 38, the claims are rejected for the same reasons as claim 2 above.

11. As to claim 4, Graf discloses each data packet in the supply of data packets includes data representing a part of a multimedia stream (Col. 6, ln. 10-16).

12. As to claims 5, 15-16, 32, and 41, the claims are rejected for the same reasons as claim 4 above.

13. As to claim 6, Graf discloses the under-run forecasting mechanism is adapted to update the under-run predicted time (Fig. 3-4; Col. 5, ln. 66 – Col. 6, ln. 9; Col. 7, ln. 29-30).

14. As to claim 7, Graf discloses the under-run forecasting mechanism is adapted to update the under-run predicted time based on a calculation of a time duration for a playback device to complete playing data provided to the playback device (Col. 8, ln. 1-14; Col. 7, ln. 29-30).

15. As to claim 8, Graf discloses the playback queuing mechanism includes a switch to select a latency-building mode or a streaming mode (Col. 5, ln. 47-54; Col. 5, ln. 66 – Col. 6, ln. 9; Col. 7, ln. 10-25).

16. As to claim 9, Graf discloses a decision-based logic to determine a target latency (Col. 7, ln. 10-25).

17. As to claim 10, Graf discloses the system further includes decision-based logic to determine a target latency based on a time difference between an updated under-run

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predicted time and an absolute system time (Col. 5, ln. 66 – Col. 6, ln. 43; The receiver-delay D and a timestamp are used.)

18. As to claims 22 and 36, the claims are rejected for the same reasons as claim 10 above.

19. As to claims 24 and 37, the claims are rejected for the same reasons as claims 1 and 10 above.

20. As to claim 11, Graf discloses a playback device to play data from the data packets (Abstract, ln. 18-23; Fig. 5).

21. As to claims 18, 31, and 40, the claims are rejected for the same reasons as claim 11 above.

22. As to claim 17, Graf discloses the system is a computer (Fig. 5).

23. As to claim 20, Graf discloses building latency in the supply of data packets if the supply of data packets is less than a target latency (Col. 6, ln. 44-59; Col. 7, ln. 10-25).

24. As to claim 34, the claim is rejected for the same reasons as claim 20 above.

25. As to claim 26, Graf discloses measuring fluctuations in arrival of data packets to the supply of data packets includes monitoring a characteristic of previously predicted under-run times (Fig. 4; Col. 6, ln. 44-59).

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. Claims 3, 14, 29, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graf as applied to claims 1, 12, 19, and 33 above, in view of Rostoker et al. (Rostoker), U.S. Patent No. 5,784,572.

28. As to claim 3, Graf discloses the invention substantially as in parent claim 1, including the system is adapted to send data packets from the playback queuing mechanism to forward the data packets to client on the network to play data from the data packets (see claim 2 above), but is silent on a mixer forwarding the data packets.

However, Rostoker discloses a mixer forwarding the data packets (Fig. 1, item 24; Col. 3, ln. 12-14).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Graf by having a mixer forward the data packets as

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taught by Rostoker in order to combine audio and video for presentation as a single stream (Rostoker: Col. 3, ln. 12-14) where the motivation to initially separate them is in order to provide different compression standards for the audio and video data (Rostoker: Abstract) for the purpose of meeting bandwidth limitations (Rostoker: Abstract).

29. As to claims 14, 29, and 39, the claims are rejected for the same reasons as claim 3 above.

30. Claims 21, 23, 27, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graf as applied to claims 19 and 33 above, in view of what is well known in the art.

31. As to claim 21, Graf discloses the invention substantially as in parent claim 19, including imposing no queuing if it is determined that building latency in the supply of data packets requires queuing data at a level more than a threshold amount to maintain a stable stream of data (Col. 6, ln. 44-59; Col. 8, ln. 52-53).

It is inherent that no queuing is required if the supply of packets is within the ability of the client to stream.

If the applicant disagrees with the inherency reasoning, Official Notice is taken that not queuing a stream if the client supports immediate display without jitter is well known in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Graf by not delaying a stream when the client can support immediate playback as is well known in the art in order to avoid unnecessary delays.

32. As to claims 27 and 35, the claims are rejected for the same reasons as claim 21 above.

33. As to claim 23, the claim is rejected for the same reasons as claim 10 above.

Graf discloses adjusting a target latency based on the under-run predicted time and an absolute system time as discussed for claim 10 above. Graf is silent on adjusting said target latency based on a value twice a standard deviation.

Official Notice is taken that varying a value by in terms of standard deviation is well known in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Graf by adjusting a value by standard deviations as is well known in the art in order to increase the room for error in calculating a target latency for the purpose of avoiding buffer underflow.

34. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graf as applied to claim 19 above, in view of Craft, U.S. Patent No. 6,272,566 B1.

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35. As to claim 25, Graf discloses the invention substantially as in parent claim 19, but is silent on flushing stale data caught in the building of latency.

However, Craft discloses flushing stale data caught in the building of latency (Col. 4, ln. 51-53).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Graf by flushing stale data caught in the building of latency as taught by Craft in order to cease use of buffering when it is no longer needed and continue to play a stream seamlessly (Craft: Col. 4, ln. 51-53).

Conclusion

36. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the Notice of References Cited (PTO-892).

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Whipple whose telephone number is (571) 270-1244. The examiner can normally be reached on Mon-Fri (8:30 AM to 5:00 PM EST).

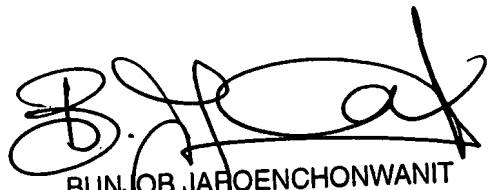
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BPW

Brian P. Whipple
9/5/07


BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER

9/17/7